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PATENT

GP-1745
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of Roger E. Frech et al.
Serial No. 10/038,782
Filed December 31, 2001
Confirmation No. 4101

Group Art Unit 1745

For CONDUCTIVE POLYAMINE-BASED ELECTROLYTE

Examiner Gregg Cantelmo

August 9, 2004

RESPONSE TO ELECTION OF SPECIES REQUIREMENT

TO THE COMMISSIONER OF PATENTS,

SIR:

In response to the Office action of July 9, 2004, wherein multiple Elections of Species were requested, Applicants hereby elect, for the purpose of conducting further searching and continued examination, the following:

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- I. In response to paragraph 2, Applicants elect: linear poly(N-methylethylenimine) as the polymer; 1,6-dibromohexane as the cross-linker; and, lithium bis-(trifluoromethylsulfonyl)imide (or "LiTfSI") as the metal salt. Claims reading on the elected species include at least claims 1-5, 7, 8, 10, 19-23, 25, 26, 29-32, 34, 35, 37-39, 74 and 75.
- II. In response to paragraph 3, and further to the elections noted above, Applicants elect, where appropriate, propylene carbonate as the swelling solvent. Of the claims noted above, claims 19-23, 25, 26 and 29 are specifically directed to the swelling solvent and read on propylene carbonate.
- III. In response to paragraph 4, Applicants elect: linear poly(N-(2-(2-methoxyethoxy)ethyl)ethylenimine) as the polymer, the 2-(2-

methoxyethoxy)ethyl group covalently bound to the polymer being the solvent moiety; and, 1,6-dibromohexane as the cross-linker. Also, if necessary, Applicants further elect as a metal salt lithium bis-(trifluoromethylsulfonyl)imide. Claims reading on the elected species include claims 40-48.

- IV. In response to paragraph 5, Applicants elect: linear poly(ethylenimine) hydrochloride as the polymer; and, 1,1,3,3-tetramethoxypropane as the cross-linker. Claims reading on the elected species include claims 49-52.
- V. In response to paragraph 6, Applicants elect: linear poly(ethylenimine) hydrochloride as the polymer; and, 1,1,3,3-tetramethoxypropane as the cross-linker. Claims reading on the elected species include claims 53, 54 and 56.
- VI. In response to paragraph 7, Applicants elect: linear poly(N-methylethylenimine) as the polymer; 1,6-dibromohexane as the cross-linker; and, lithium bis-(trifluoromethylsulfonyl)imide (or "LiTfSI") as the metal salt. Claims reading on the elected species include at least claims 57, 58, 60, 76 and 77.
- VII. In response to paragraph 8, Applicants elect: linear poly(N-methylethylenimine) as the polymer; 1,6-dibromohexane as the cross-linker; and, lithium bis-(trifluoromethylsulfonyl)imide (or "LiTfSI") as the metal salt. Claims reading on the elected species include at least claims 61, 62, 64 and 65.
- VIII. If necessary, with respect to claims 66-69, Applicants elect: linear lithium poly(N-(3-propanesulfonate)ethylenimine) as the polymer, wherein the lithium ion is capable of diffusing through the polymer electrolyte and the sulfonate anion is covalently attached to the polymer backbone; and, 1,6-dibromohexane as the cross-linker. Claims reading on the elected species include at least claims 66, 67 and 69.
- IX. In response to paragraph 9, Applicants elect: linear lithium poly(N-(3-propanesulfonate)ethylenimine) as the polymer, wherein the lithium ion

is capable of diffusing through the polymer electrolyte and the sulfonate anion is covalently attached to the polymer backbone; and, 1,6-dibromohexane as the cross-linker. Claims reading on the elected species include at least claims 70, 71 and 73.

X. Finally, in response to paragraph 10 and because the same polymer, cross-linker, metal salt, etc., and/or combination thereof, was not elected in response to all of the many Election of Species requirements made in the present Office action, Applicants further elect, for further searching and continued examination: linear poly(N-methylethylenimine) as the polymer; 1,6-dibromohexane as the cross-linker; and, lithium bis-(trifluoromethylsulfonyl)imide (or "LiTfSI") as the metal salt. Claims reading on the elected species include at least claims 1-5, 7, 8, 10, 19-23, 25, 26, 29-32, 34, 35, 37-39, 57, 58, 60, 61, 62, 64, 65 and 74-77.

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It is to be noted, however, that Applicants respectfully traverse the Election of Species requirement, particularly with respect to the Election recited in paragraph 10, on the basis that, consistent with MPEP §803, to search and examine the subject matter of all pending claims does not place a serious burden on the Office.¹ In fact, Applicants respectfully submit the subject matter of all pending claims has already been searched and examined, evidence of which is the Office action previously issued on the merits of all pending claims (see Paper No. 7, dated October 20, 2003, a detailed response to which was submitted on April 20, 2004).

In view of the foregoing, Applicants respectfully request reconsideration of all Election of Species requirements, and in particular the Election recited in paragraph 10.

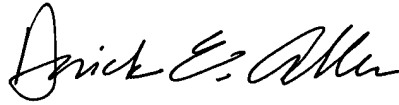
¹ "If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent and distinct inventions." MPEP §803.

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Respectfully submitted,



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